

FIG. 1

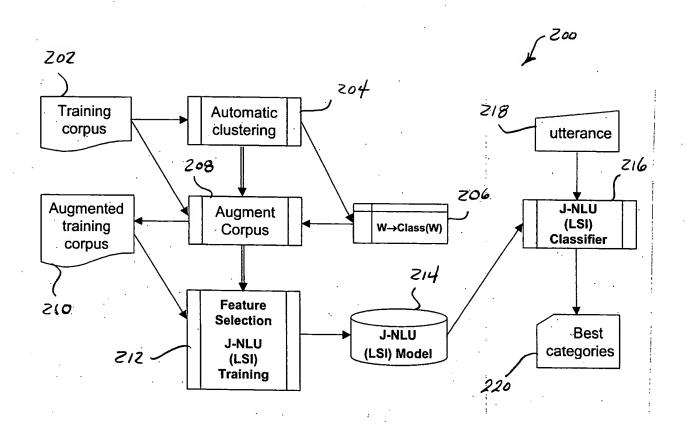


FIG. 2

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Set up initial word class mapping

Compute the mapping perplexity on the training corpus

Do until some stopping criterion is met

Do for each word w in vocabulary W

Remove w from class g<sub>w</sub>

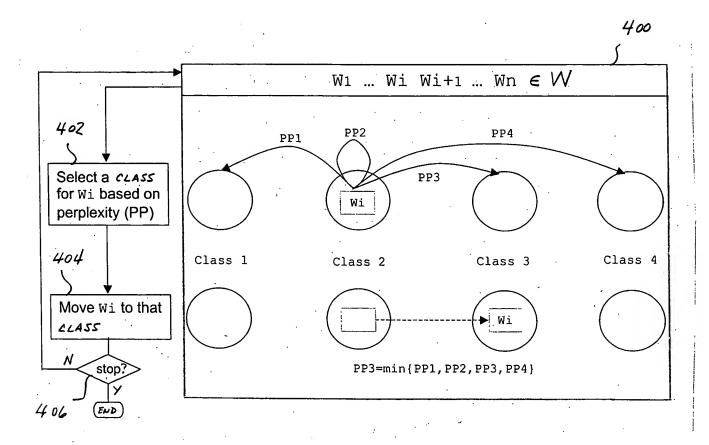
Do for all existing classes g:

Compute perplexity as if w were moved to g
end-do-loop

Assign w to the class with the lowest perplexity
end-do-loop
end-do-loop

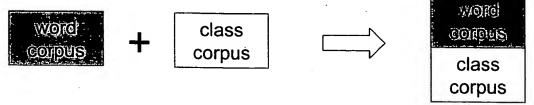
Exit
```

FIG. 3

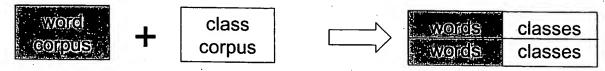


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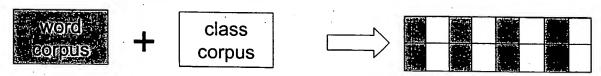
Append: append one corpus to another



Join: join the utterances in two corpora



Interleave: insert each class after its word



F16.5

Given a parameter *p*:

- 1. Calculate the IG value of each term
- 2. Sort the terms by their IG values into descending order
- 3. Set the threshold *t* to the IG value at top *p* percentile of sorted terms
- 4. Select terms with IG value  $\geq t$

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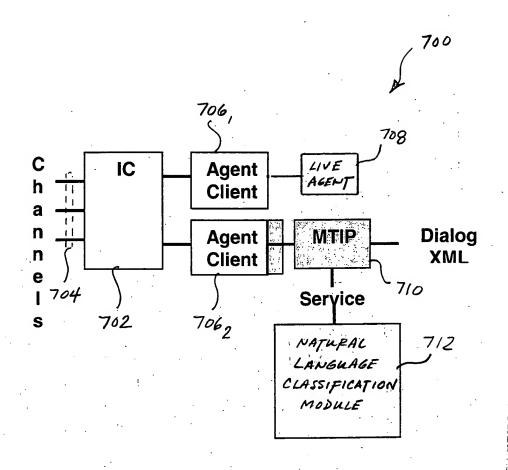


FIG. 7